REMARKS

In the Action mailed June 28, 2001, the Examiner rejected claims 1-6, 8-11, 13-14 and 16-18 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,571,111 to Stoffels et al. ("Stoffels"). Also, claims 7, 12 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stoffels et al. in view of U.S. Patent No. 3,832,590 to Yamazaki et al. ("Yamazaki"). In addition, the Examiner objected to Figure 2. Further, the Examiner stated that claim 15 was allowed.

In view of the remarks set forth herein, Applicant respectfully submits that all pending claims, claims 1-14 and 16-18 are in condition for allowance.

A. Objection to Drawings

Applicant notes that formal drawings will be required in the application subsequent to allowance and will address the present requirement via drawing amendment at that time.

B. Rejection Under §102(b)

Claims 1-6, 8-11, 13-14 and 16-18 were rejected by the Examiner under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,571,111 to Stoffels et al. The Examiner stated in the Office Action that the Stoffels reference teaches an envelope, an elongated interior chamber disposed within the envelope having a lamp body located therein, at least one electrode lead partially housed by the interior chamber, and a single continuous elongated mandrel forming a shaft of the electrode lead.

Stoffels is clearly distinguishable from the present invention. Stoffels teaches ceramic closing plugs which narrowly enclose over a length of a lead through of an associated electrode provided with a tip. The lead through is connected to the closing plug in a gastight manner by means of a ceramic glazing joint at its side facing away from the discharge space. Referring to column 3, lines 30-50 and Figure 2, the lead throughs each comprise a halide-resistant portion (41, 51) made of, for example, molybdenum, enclosed by a molybdenum coil, and a portion (40, 50) which is fastened to an associated closing plug in a gastight manner by means of the ceramic glazing joint. The lead through portions 40, 50 are made of a metal (e.g., Nb) which has a coefficient of expansion which harmonizes very well with that of the closing plugs. Accordingly, Stoffels effectively teaches a lead

through constructed of two separate materials, molybdenum and niobium, not Applicant's claimed single mandrel. Reference to Figure 2 also shows divergent diameters of lead through portions 40-41 and 50-51, further evidencing that a single continuous elongated mandrel is not taught nor suggested in Stoffels. In addition, Stoffels discloses the use of separate pieces to form the electrode assembly. As disclosed in column 3, lines 47-51, the assembly includes two electrode rods 4a, 5a connected to lead through portions 41 and 51. At column 4, lines 9-10, Stoffels teaches the electrode tips to comprise tungsten. Accordingly, Stoffels teaches an electrode lead through assembly of niobium-molybdenum-tungsten. This does not overlap Applicant's claimed single continuous elongated mandrel, particularly a tungsten wire mandrel (claim 7).

Moreover, the presently claimed invention does not use multiple pieces to form the leadwire mandrel. As specifically called for in claim 1, the present invention is directed to a "single continuous elongated mandrel forming a shaft of the electrode lead." Thus, the present invention discloses the use of a single piece to form the shank or mandrel, which, as explained in the specification, negates the need to weld separate pieces and overcomes problems that may arise with respect to voids, porosity, misalignment, tips breaking, shrinkage, decreased lamp life, less uniform heat conduction and others.

Claims 9 and 14 similarly call for a "single continuous elongated mandrel". Thus, the claims as written clearly call for a claimed element, a single continuous elongated mandrel, that the prior art does not even contemplate. As explained in the Applicant's specification (e.g., page 6, lines 29-32), the present invention is specifically directed to forming a ceramic metal halide lamp with a single piece of wire in order to advantageously provide a stronger and more easily manufactured assembly. Stoffels' multi-component electrode cannot provide an equivalent ceramic metal halide lamp assembly because Stoffels does not disclose nor suggest the strength and stability provided from a one piece assembly as does the present invention.

Moreover, the Stoffels design results in the formation of multiple joints and connections, thereby reducing the stability of the assembly. In contrast, as stated above, the present invention does not invoke different pieces that are welded together. Rather, the present invention is directed to a one piece wire assembly for the mandrel that provides greater stability than other lamp assemblies.

Applicant respectfully submits that the reference cited by the Examiner does not anticipate the present invention. As such, Applicant respectfully requests the Examiner to remove all rejections to claims 1-6, 8-11, 13-14 and 16-18 under 35 U.S.C. §102(b) and allow the claims as written.

C. Rejection Under §103(a)

The Examiner also rejected claims 7, 12 and 17 under 35 U.S.C. §103(a) as being unpatentable over Stoffels as applied to claims 1 and 9, in view of U.S. Patent No. 3,832,590 to Yamazaki et al. ("Yamazaki"). The Examiner states that Yamazaki discloses a mandrel made from tungsten or molybdenum and, therefore, it would have been obvious to one of skill in the art to substitute the tungsten material of Yamazaki for the molybdenum of Stoffels to form the mandrel from a single piece of tungsten wire.

Applicant submits that neither of the references cited by the Examiner disclose the use of a single continuous elongated mandrel as claimed by the present invention. The Yamazaki reference teaches the use of a particular thickness of the end walls to avoid cracking. Further, Yamazaki states that tungsten or molybdenum should be used in order to avoid corrosion of the wires by the materials contained within the tube. However, Yamazaki does not teach that a single wire of tungsten or molybdenum would increase strength of the assembly. Therefore, it cannot be said that one of ordinary skill in the art would understand the teachings of Yamazaki and combine them with the teachings of Stoffels to produce a continuous elongated mandrel made from a single material.

The presently claimed invention, specifically in claims 7 and 12, calls for a single continuous elongated mandrel formed from a single piece of tungsten wire to be included in a ceramic metal halide lamp. Furthermore, the method claimed in claim 17 is directed to a method for improving the strength and stability of electrode leadwires in ceramic metal halide lamps by providing a first material to form an electrode tip coil to an end of the mandrel and then providing a second dissimilar material to form the overwind component which is interconnected with the single continuous elongated mandrel. The Yamazaki reference does not disclose nor suggest the use of dissimilar material for the electrode tip coil and the overwind component that are attached to a single continuous elongated mandrel. In fact, Yamazaki does not include an overwind component. Therefore, it cannot be said

that the rejected claims are obvious to one of ordinary skill in the art with respect to Stoffels in view of Yamazaki.

As such, it cannot be said that the electrodes as taught by Yamazaki would suggest the present invention in view of Stoffels. Neither reference discloses the use of a continuous elongated mandrel made from a single wire in order to promote greater stability and strength of the assembly. Therefore, Applicant respectfully requests that the Examiner remove all rejections of claims 7, 12 and 17 under 35 U.S.C. §103(a).

D. Conclusion

Applicant respectfully submits that the rejections set forth in the Office Action of June 28, 2001 have been overcome. Accordingly, Applicant respectfully submits that claims 1-20 are in condition for allowance. Withdrawal of the rejections and early notification of allowability are earnestly solicited. Should any issues remain, the Examiner is encouraged to contact the undersigned to resolve any such issues.

Respectfully submitted,

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